

PATENT COOPERATION TREATY

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and PCT Rule 70)

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| Applicant's or agent's file reference: 16-254 | | See Form PCT/IPEA/416 for further action. | |
| International application No. PCT/JP2004/011692 | International filing date (day/month/year) 13. 08. 2004 | Priority date (day/month/year) 18. 08. 2003 | |
| International Patent Classification (IPC) or national classification and IPC Int. Cl.⁷ B60K17/04, 6/04, B60L11/14 | | | |
| Applicant HONDA MOTOR CO., LTD. | | | |
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u> 3 </u> sheets including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> a total of <u> 2 </u> sheets, as follows:</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> | | | |
| <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of the invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under PCT Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p> | | | |

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| Date of submission of the demand 14. 01. 2005 | Date of completion of this report 29. 06. 2005 |
| Name and mailing address of the IPEA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

Form PCT/IPEA/409 (cover sheet) (January 2004)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/011692

I. Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4).
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3).
2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):
- ☐ The international application as originally filed/furnished
 - ☒ the description:
 - pages 1 to 11 (1 to 14 in the English version), as originally filed/furnished
 - pages* _____, received by this Authority on _____
 - pages* _____, received by this Authority on _____
 - ☒ the claims:
 - Nos. _____, as originally filed/furnished
 - Nos.* 1 and 4, as amended under Article 19
 - Nos.* _____, received by this Authority on _____
 - Nos.* _____, received by this Authority on _____
 - ☒ the drawings:
 - ~~pages~~/Figs. 1 to 10, as originally filed/furnished
 - ~~page~~/Fig.* _____, received by this Authority on _____
 - ~~pages~~/Fig.* _____, received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
 - ☒ the claims, Nos. 2 and 3
 - ☐ the drawings, sheets/fig _____
 - ☐ the sequence listing (specify): _____
 - ☐ any table(s) related to sequence listing (specify): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c))
- ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets/fig _____
 - ☐ the sequence listing (specify): _____
 - ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/011692

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|----------------|-----|
| Novelty (N) | Claims 1 and 4 | Yes |
| | Claims | No |
| Inventive step (IS) | Claim 1 | Yes |
| | Claim 4 | No |
| Industrial applicability (IA) | Claims 1 and 4 | Yes |
| | Claim | No |

2. Citations and explanations (PCT Rule 70.7)

Document 1: JP 11-180173 A (Mitsubishi Motors Corp.), 06 July, 1999
Full text; Fig. 1 (Family: none)

Document 2: JP 2002-211250 A (Daimler Chrysler AG.), 31 July, 2002
Full text; Fig. 4
& US 2002/53475 A1, Full text; Fig. 4

The invention according to claim 4 does not appear to have inventive step in view of Document 1 cited in the ISR and Document 2 cited in the ISR. Document 1 describes means 4 for transmitting the driving force of a motor 2 to an output shaft in Fig. 1, and Document 2 describes that a motor and a starter motor 53 are disposed coaxially with the axis at a position sandwiched between an engine and a transmission. It appears to be easy for a person skilled in the art to employ the disposition of Document 2 in a hybrid vehicle described in Document 1.

The invention according to claim 1 appears to be neither described in any of documents cited in the ISR nor obvious for a person skilled in the art.

[1] (amended) A hybrid vehicle comprising:

an engine (E) having a crankshaft (15);

a transmission (T) that has an input shaft (16) joined coaxially to the crankshaft (15) and an output shaft (17) disposed in parallel to the input shaft (16), and is capable of changing the gear ratio between the input shaft (16) and the output shaft (17);

a generator/motor (M1) that is disposed so as to surround the outer periphery of an axis (L) of the input shaft (16) at a position sandwiched between the engine (E) and the transmission (T); and

power transmission means (78) for transmitting the driving force of the generator/motor (M1) to any position of a power transmission pathway between the output shaft (17) and a differential gear (19);

the vehicle being capable of traveling by means of either one or both of the driving force of the engine (E) and the driving force of the generator/motor (M1), wherein

the generator/motor (M1) is disposed coaxially with the axis (L), and

a starter motor (M2) is joined to an end part of the input shaft (16) on a side opposite to the engine (E).

[2] (deleted)

[3] (deleted)

[4] (amended) A hybrid vehicle comprising:

an engine (E) having a crankshaft (15);

a transmission (T) that has an input shaft (16) joined coaxially to the crankshaft (15) and an output shaft (17) disposed in parallel to the input shaft (16), and is capable of changing the gear ratio between the input shaft (16) and the output shaft (17);

a generator/motor (M1) that is disposed so as to surround the outer periphery of an axis (L) of the input shaft (16) at a position sandwiched between the engine (E) and the transmission (T); and

power transmission means (78) for transmitting the driving force of the generator/motor (M1) to any position of a power transmission pathway between the output shaft (17) and a differential gear (19);

the vehicle being capable of traveling by means of either one or both of the driving force of the engine (E) and the driving force of the generator/motor (M1), wherein

the generator/motor (M1) is disposed coaxially with the axis (L), and

a starter motor (M2) disposed so as to surround the outer periphery of the axis (L) at a position sandwiched between the engine (E) and the transmission (T) is joined to the crankshaft (15) or the input shaft (16).